

REMARKS

Review and reconsideration on the merits are requested.

Claims 1-15 and 19-33 were pending.

Attached is a substitute specification.

The prior art: JP 2000044878 (JP '878); U.S. Patent 5,376,391 Nisperos-Carriedo et al (Nisperos-Carriedo); U.S. Patent 4,125,630 Orthoefer (Orthoefer); U.S. Patent 4,511,592 Percel et al (Percel).

The rejections: all claims but claims 11 and 29-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '878 in view of Nisperos-Carriedo.

Claims 11 and 29-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the above prior art, Orthoefer and further in view of Percel.

The Examiner's position on the prior art as set forth in the Action in detail and will not be repeated here except as necessary to an understanding of Applicants' traversal of the rejections which is now presented.

Applicants first address the teaching of the prior art, in part, and the amendments to the claims.

The following components are described in claim 11 and in the Detailed Description of Nisperos-Carriedo.

polyethylene glycol - an ethylene oxide-added polyhydric alcohol;

glycerol - a trivalent alcohol (multivalent alcohol having two or more -OH groups);

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propylene glycol - a polyvalent alcohol;

carnauba wax - a wax;

candellila was - a wax;

stearic acid - a saturated fatty acid;

oleic acid - an unsaturated fatty acid;

sorbitol - a sugar alcohol;

soybean oil - an oil;

bees wax - a wax; and

mannitol - a sugar alcohol.

Applicants thus amend claim 1 by reciting, canceling or limiting the following components as the component combined with the fractionated yeast cell wall.

viscous polysaccharides;

oligosaccharides;

hardened fats and oils (cancelled);

waxes (cancelled);

sugar alcohols (limited); and

starch hydrolyzates

Applicants thus delete “hardened fats and oils” and “waxes” and limit “sugar alcohols” to one or more of “xylitol, paratinit, maltitol, erythritol and lactitol”. The sugar alcohols of Nisperos - Carriedo are excluded.

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Applicants appropriately amend claims 4 and 11 in accordance with the amendments of claim 1 and cancel claims 21, 22, 26, 27, 31 and 32.

Applicants add dependent claims where they have deleted “hardened fats and oils”, “waxes” and “sugar alcohols”. In those dependent claims, they further limit “core” to “flavor composition”.

JP ‘878

Applicants first address JP ‘878. JP ‘878 describes that a yeast cell wall fraction is used for a coating agent, that the coating agent can be used for a foodstuff, pharmaceuticals, etc., that the coating agent has very low oxygen permeability, not stickiness and controls an elution initiation time. However, Applicants submit that the skilled artisan would not combine the disclosure of plasticizers in the secondary references with JP ‘878.

Applicants first address Orthoefer and comment upon the Examiner’s extremely broad interpretation of “plasticizer” and what they submit is the Examiner’s error in equating “plasticizer” from many diverse and non-analogous arts in the combination rejection which the Examiner has posed.

Orthoefer

Orthoefer discloses pliable meat analogs based on vegetable protein materials. Sugar alcohols, etc., are disclosed as a “plasticizer” to improve the texture of the pliable meat analogs.

Applicants respectfully submit that the Examiner has construed the term “plasticizer” in the context of the rejections in an overly broad, improper manner, in order to combine the references.

The term “plasticizer” has an extremely broad meaning depending upon the art involved, but generally merely means that the material or object with which the plasticizer is mixed becomes soft.

In Orthoefer, a plasticizer is used to soften the Orthoefer pliable meat analog vegetable protein materials. Thus, in Orthoefer, the plasticizer is used to soften the composition as a whole so that the same becomes soft for the purpose of improving the texture of the Orthoefer meat analog vegetable protein materials.

In distinction to Orthoefer, in accordance with the present invention, the plasticizer is used to improve coating properties. Quite clearly, simply because the term “plasticizer” is used in Orthoefer and the term “plasticizer” is used herein would not render these two material interchangeable as equivalents to one of ordinary skill in the art.

Orthoefer may disclose the effects when the Orthoefer “plasticizer” is mixed with plant proteins. However, the substance to be combined with the “plasticizer” in the present invention is a fractionated yeast cell wall. The main components of a fractionated yeast cell wall are glucan and mannan, which are polysaccharides (not proteins as in Orthoefer). The properties of proteins as in Orthoefer are quite different from the properties of polysaccharides as in the present invention. For example, the solubilities and the behaviors upon heating are quite different. Thus, even assuming that the materials termed “plasticizers” in Orthoefer seem to have the same chemical composition as a “plasticizer” in other prior art relied on, the resulting effects desired or obtained would be completely different. The reason for this is, of course, that

the proteins of Orthoefer are quite different from the polysaccharides in the fractured yeast cell wall of the present invention and of JP '878.

As discussed above, in Orthoefer and in the present invention (and JP '878), the main materials which are being "treated" are quite different (polysaccharides versus proteins). As a consequence, the common aspect often used to define "plasticizer" is not present between the proteins of Orthoefer and the polysaccharides of the present invention (or JP '878).

Accordingly, Applicants submit that the simple use of the term "plasticizer" would not lead one of ordinary skill in the art to combine JP '878 with Orthoefer or combine JP '878 with Nisperos-Carriedo and, since the reason for combination is lacking due to the difference in desired effects or results, there would be no reason for one of ordinary skill in the art to combine JP '878 with Orthoefer or Nisperos-Carriedo to reach the present invention.

JP '878 merely discloses a yeast cell wall fraction as a coating agent, etc., as earlier discussed. There is no disclosure of any plasticizer as claimed herein.

Orthoefer merely discloses a process for manufacturing a meat-like product using plant protein. As a function of an edible plasticizer in Orthoefer, Orthoefer discloses the smoothness of the meat-like product, the binding property of plant proteins, and the maintenance of moisture. Although sugar alcohols and polysaccharides are mentioned as plasticizers, Orthoefer does not teach or suggest the ratio of the coating agent.

Nisperos-Carriedo

The Examiner also considers that Nisperos-Carriedo discloses a plasticizer. However, Nisperos-Carriedo discloses coating of vegetables, fruits, fungi, etc., and the coating agent

includes CMC, HPC, HPMC, MC, etc., or the like. The coating disclosed in Nisperos-Carriedo is carried out for the purpose of preventing water vapor from leaving vegetables, etc., and for extending and maintaining shelf-life of vegetables, etc., during transportation and storage by using an antioxidant such as BHA in the coating agent.

Thus, Nisperos-Carriedo merely discloses a coating agent, a coating method and the effects thereof with respect to coating of vegetables, fruits and fungi. Nisperos-Carriedo does not teach or suggest the technique of the present invention, which prepares powders wherein, for example, a flavor is carried with gum arabic, etc., and powders are coated with the claimed coating agent. Nisperos-Carriedo does not teach or suggest the effects of the present invention, e.g., that the deterioration of a flavor is prevented and that the flavor can be released when necessary. Moreover, for the appropriate release of a flavor, the present invention defines a ratio of the core substance to be coated (i.e., powdery flavor) and the coating agent. Nisperos-Carriedo merely discloses carnauba wax, soybean oil, etc., as a plasticizer and merely discloses a ratio of a plasticizer and other substances in the coating agent. Nisperos-Carriedo does not teach or suggest the amount of the coating agent.

Applicants thus respectfully submit that the rejection based on JP '878 in view of Nisperos-Carriedo has been overcome.

With respect to the rejection of claims 11 and 29-33 over JP '878 in view of Nisperos-Carriedo, Orthoefer and further in view of Percel, Applicants believe that their arguments above have avoided this rejection.

However, even assuming that the process disclosed in Percel (fluidized bed chamber granulation) would for some reason be further combined with the other references, Applicants respectfully submit that the present invention would not be obvious. To replace such a process, the coating agent should be in a mist-like form. However, none of JP '878, Nisperos-Carriedo or Orthoefer teach or suggest the state of the coating agent, e.g., the viscosity thereof.

Further, in order to achieve the desired mist-like condition, the amounts of the components must be controlled. Applicants respectfully submit, for the reasons now advanced, that the prior art does not discuss these factors of the present invention.

Although Nisperos-Carriedo disclose carnauba wax, soybean oil, etc., as a plasticizer, vegetables, fruits, fungi are directly coated. Accordingly, it is quite apparent that it is impossible to use the fluidized-bed chamber as disclosed in Percel for the coating of Nisperos-Carriedo. For the method using a fluidized-bed chamber, a fluid such as air is flowed upward for floating of particles and a coating agent in mist-like form is sprayed. In such a method, the substance to be coated is required to be small and light in weight.

It is noted that Nisperos-Carriedo discloses brushing, rolling, dripping, wiping, rubbing as the coating method.

On the other hand, although Orthoefer discloses sugar alcohol, polysaccharides, etc., as a "plasticizer", Orthoefer does not teach or suggest the use of a plasticizer as a coating agent or the use of a "plasticizer" together with a coating agent. Of course, Orthoefer does not teach or suggest a coating method.

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Moreover, JP '878 does not teach or suggest a coating method. Even assuming that the coating agent of the present invention, in which a "plasticizer" is mixed, could be combined with the coating method of Percel, the coating agent should be mist-like and there is no reasonable expectation for successful coating by using a Percel fluidized-bed chamber. Such success was achieved by the present invention for the first time, and is not taught or suggested by JP '878, Nisperos-Carriedo, Orthoefer or Percel.

Although the Examiner considers that the size of the substance to be coated is obvious to one skilled in the art, it is quite apparent there is a significant difference in size between the spray dried product of gum arabic (30 to 3000 μm , one example of the present invention) and vegetables, fruits, or plant protein meat-like product of the secondary references. Thus, there is no motivation to derive this aspect the present invention as called for in claim 4 and claim 11 from the references.

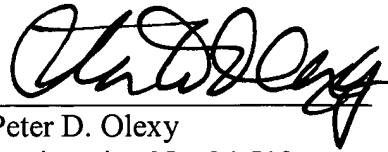
In addition, in view of the difference of technologies of the references as described above, there is no positive motivation to combine JP '878 with Nisperos-Carriedo or Orthoefer or Percel. Even assuming that these references could be combined, the combined content does not teach all of the elements of the present claims. In addition, Applicants submit that the combination of references is based on the knowledge after reading the present claims (hindsight).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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